US Army Corps of Engineers®

REFERENCE BIOLOGICAL ASSESSMENT

SPECIFIC PROJECT INFORMATION FORM (SPIF)

For Residential Pier, Ramp, and Float Structures in the Columbia River from Chief Joseph to Rock Island Dams and in the Okanogan River from River Mile Five to its Mouth

1. **Referenced Biological Opinion:**
   Biological Opinion And Essential Fish Habitat Consultation for Six Pending Army Corps of Engineers Permits Covering Residential Docks on the Columbia River between Wells and Rock Island Dam (WSB-99-161, WSB-99-167, WSB-99-243, WSB-00-536, WSB-01-153, WSB-01-316), August 3, 2001. National Marine Fisheries Service, Northwest Region, Washington State Habitat Branch.
2. **Date**: _____
3. **Applicant**: _____ **Corps Reference No.**: _____
   Address: _____
   City: _____ State: _____ Zip: _____
4. **Agent:** _____
   Address: _____
   City: _____ State: _____ Zip: _____
5. **Location(s) of Activity:**
   Quarter Section: _____ Section: _____ Township: _____ Range: _____
   Latitude: _____ Longitude: _____
   Street address: _____
   Waterbody: _____ County: _____
6. **Use type:** ☐ Private recreation ☐ Joint-use[1]
   Name and address of joint-use property owner:
   _____
   _____
7. **Project description:**
   a. Length and width of pier: _____
   b. Length and width of ramp: _____
   c. Length and width of float(s): _____
   d. Number of floats you will install: _____
   e. Will the floats be permanent or temporary[2]: _____

[1] Joint use requires at least two contiguous residential waterfront property owners.
[2] Permanent floats must be located over water that is at least 20 feet deep. If this depth cannot be attained, a temporary float may be used. Temporary floats must be removed annually from March 1 to June 30.

d. What type of light-transmitting device (e.g., grating, clear acrylic sheets) will you install in the

Pier: _____

Ramp: _____

Float(s): _____

e. Specify the length and width of the light-transmitting device you will install in the

Pier: _____

Ramp: _____

Float(s): _____

f. The light transmitting device comprises what percent of the surface area of the

Pier: _____

Ramp: _____

Float(s): _____

g. What is the percent open area[3] of the grating, or what is the manufacturer's rating for light transmission through the clear acrylic sheet on the:

Pier: _____

Ramp: _____

Float(s): _____

h. What is the freeboard height[4] on the float(s): _____

i. What type of construction material will you use for decking, fascia boards, stringers, pile caps, and whalers? What type of preservative or paint will you use?

_____

_____

_____

_____

_____

j. Describe the type of floatation you will use. Include the color and composition (e.g., high density polyethlyne, etc.) of flotation parts that will contact the water:

_____

_____

_____

k. How many piling will you use? _____

l. What will the minimum spacing be between piling on any side of the structure's components (e.g., on the pier, ramp, and float)?

_____

[3] The *opening size* of grating is the area enclosed between the rectangular bars and cross rods in bar grating, or the area enclosed between the bonds and strands in expanded grating. The *percent open area* is a relative measure of the degree light can pass through grating. The manufacturer may provide this value. Otherwise, it can be calculated by dividing the opening size by the sum of the opening size plus the surface area of the rectangular bars and cross rods.

[4] *Freeboard height* is the distance from the top of the float decking to the water surface.

m. What diameter will the piling be? _____

n. What color will the piling be? _____

o. What composition will the piling be? (e.g., concrete piling in a in white polyvinylchloride sleeve)

p. Describe the type of materials you will use for anchoring the structure (e.g., two 350 pound concrete anchors will be connected to the float by 3/8 inch galvanized steel chain):

q. What will the minimum height of the fixed pier be above the ordinary high water level? _____

r. What will the water depth be under the landward edge of the float? _____

8. **Construction techniques:**

a. Describe how the piling will be installed. Include the type of equipment, tools, and machinery you will use:

b. How will the pier, ramp, and float be constructed and installed? What type of equipment, tools, and machinery will you use?

c. How many days will it take to complete the work? _____

d. How will you prevent construction debris from entering the water or causing water quality degradation:

9. **Description of the project area:**

a. What is the length of the shoreline along the ordinary high water mark (OHWM)? What is the slope of the shoreline landward from the OHWM? What type of substrate is on the shoreline above the OHWM?

b. Describe the vegetation along the shoreline above the OHWM. Include the number of trees and shrubs, their species, their height, and their location. (Photos and/or drawings are recommended).

c. What is the substrate waterward of the OHWM? What type of aquatic vegetation is within a 200-foot radius of the proposed pier, ramp and float? How dense is the vegetative cover (e.g., 75 % vegetative cover and 25% free of vegetation).

d. Describe any existing or proposed in-water structures within 400 feet of your proposed pier, ramp, and float. What is the distance between each of these structures and your proposed pier, ramp, and float?

e. Describe the amount of large and small woody debris on the shoreline both above and below the OHWM. Is there any woody debris on the adjacent properties?

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_____

10. **Conservation Measures to be implemented** (Check only the measures you will implement, leaving blank any measures you will not implement. State 'not applicable' next to items that do not pertain to your project. For example, if no heavy equipment will be used during construction, write 'not applicable' or 'N/A' next to items a, b, and d):

a. ☐ All heavy equipment will be clean and free of external oil, fuel, or other potential pollutants.

b. ☐ A spill prevention, control, and containment (SPCC) plan will be implemented (if heavy equipment will be used).

c. ☐ Native riparian vegetation will not be removed or destroyed during dock installation.

d. ☐ Heavy equipment will work from on-shore staging areas, with the exception of an excavator arm or bucket. Pile drivers may use constructed work platforms to access construction locations (i.e., a barge).

e. ☐ No in-water fill material will be allowed, with the exception of piling or anchors.

f. ☐ Installation and construction of permanent dock components will take place in a period where contact with salmonids is minimized (July 1 to February 28).

g. ☐ Temporary floats must be removed annually from March 1 to June 30.

h. ☐ Light-transmitting devices must cover at least 60 percent of the surface area of the float. The open area of grating must be at least 60 percent. Clear translucent material must have greater than 90 percent light transmittance as rated by the manufacturer.

i. ☐ Floats will not exceed dimensions of 8 by 20 feet. Two floats may be used for joint-use docks. Joint use requires at least two separate property owners as applicants for the Corps of Engineers permit.

j. ☐ Float materials contacting the water will be white in color or translucent.

k. ☐ Floats must be located over water that is at least 20 feet deep. If this depth cannot be attained, a temporary float may be used.

l. ☐ No skirting will be placed on floats.

m. ☐ The dock shall be built with materials that do not leach preservatives or other compounds that are known to be deleterious to fishes.

n. ☐ Piling will not exceed four inches in diameter, or five inches in diameter if encased in polyvinylchloride.

o. ☐ Piling will be white in color.

p. ☐ Piling will be spaced at least 18 feet apart from one another on the same side of any dock component.

q. ☐ Piers will extend a minimum of 20 feet perpendicular from the shoreline.

r. ☐ Light-transmitting devices must cover at least 60 percent of the surface area of the pier and ramp. The open area of grating must be at least 60 percent. Clear translucent material must have greater than 90 percent light transmittance as rated by the manufacturer.

s. ☐ Piers and ramps will be less than 4 feet wide.

t. ☐ The pier and ramp will be elevated at least two feet above the water.

u. ☐ No existing habitat features will be removed from the shore or aquatic environment (woody debris or substrate materials). If invasive weeds (e.g., milfoil) are present, removal may occur with authorization for the Washington State Department of Fish and Wildlife.

v. ☐ Docks must not be located within 400 feet of existing docks.

w. ☐ Docks must be cleaned to ensure light penetration.

x. ☐ Shoreline armoring (e.g., bulkheads, rip rap, and retaining walls) will not occur in association with the dock installation (before, during, or after installation of the dock).

y. ☐ Riparian vegetation will be left intact during and following dock installation, except in the exact footprint of individual piling.

z. ☐ If absent, riparian vegetation shall be established on shoreline areas adjacent to the dock.

aa. ☐ The applicant must, upon completion of construction, submit as-built photographs of the structure. The Corps must inspect the pier, ramp and float each year until completion of construction to ensure compliance with all permit conditions. During the inspections, the Corps will record any unanticipated indirect and cumulative effects.

11. **Which Conservation Measures will not be met by your project? Why won't they be met?**

_____

_____

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_____

12. **Justification of why the project is a "likely to adversely affect" determination without meeting all the Conservation Measures. For example, what additional conservation measures will you take than listed in item 10? (Ask your consultant or Corps project manager for assistance, if needed.)**

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13. **Essential Fish Habitat acreage (square footage of pier, ramp and float):** _____

14. **Drawings:** Attach a vicinity map and project drawings (plan and elevation views required). Photographs are recommended.

15. **Planting plan:** Attach copy of planting, monitoring and contingency plan for riparian area.

The following questions are to be completed by the Corps of Engineers

16. **Department of the Army permit(s) proposed to be used:** _____

17. **Threatened or Endangered Species present (both listed and proposed). For federally-listed terrestrial and plant species, provide an addendum discussing potential impacts to those species.**

Species	Distance to Occurrence (i.e. to nest, perch tree)	Effect Determination (NE, NLTAA, or LTAA)

18. **Work window for construction:** _____ through _____

Note: the attached bull trout document should be included *only* in request for concurrence to U. S. Fish and Wildlife Service.

Rationale for Determination of 'Not Likely to Adversely Affect' Columbia River Bull Trout for Pier, Ramp, and Float Projects Submitted for Section 7 Consultation to the U.S. Fish and Wildlife Service by the Seattle District, U.S. Army Corps of Engineers.

Adult bull trout could potentially be in the project areas from November through May or June; subadult bull trout could potentially be in the project areas year round, but would avoid the nearshore when temperatures exceed 15° C. Juveniles less than three years old would not be expected in the project areas (Rieman et al. 1997)[1]. The proposed projects could have the following impacts on bull trout: 1) new structures could provide ambush sites for bull trout predators; 2) shading from the structures could reduce the abundance of prey organisms available to bull trout by reducing primary productivity; 3) temporary turbidity associated with construction may reduce water quality; 4) pile driving may injure or disrupt the distribution and behavior of bull trout; 5) boating could injure bull trout, destroy macrophyte beds, and increase shoreline erosion.

1) Increased bull trout predation. Structural elements of the proposed piers, ramps, and floats may provide velocity refuge, shade, and overhead cover for largemouth and smallmouth bass, predators of Columbia River salmonids. However, given their large size and aversion to high water temperatures typical of areas occupied by bass, bull trout would be unlikely to experience a change in predation rate as a result of the proposed projects. For example, bull trout typically avoid waters where the temperature exceeds 15°C and prefer temperatures less than 10°C whereas smallmouth bass consumption is minimal below 10°C. In addition, as top-of-the-line predators, adult and subadult bull trout would more likely impact bass than bass would be likely to impact project area bull trout.

2) Reduction in prey abundance. The proposed structures would not significantly reduce phytoplakton primary production because of the shade-reducing design of the projects. The proposed piers and ramps will be narrow, elevated, and grated, allowing light penetration under the structure. Macrophyte density could be reduced under the floats due to the reduction in light intensity. It is not likely that the reduction in macrophyte density under the floats would measurably reduce benthic primary or secondary production due to the overall abundance and density of macrophytes in the area surrounding the proposed structures.

3) Reduction in water quality. The bull trout life history stages requiring the lowest fine sediment levels—spawning, incubation, and fry rearing—occur in headwater streams and small tributaries far above the proposed project sites. Turbidity associated with project activities would be short-term and highly localized, and would probably not injure adult and subadult fish in the vicinity of the proposed projects. In addition, bull trout in the project area would be large and mobile enough to avoid sediment plumes.

4) Pile-driving impacts. Spawning and non-spawning adults and subadults would be expected to begin migrating upstream to headwater tributaries beginning in May. Overwintering adult bull trout would be expected in the project areas from November to May. These periods overlap with the allowable work window of July 1 through February 28. Feist et al. (1996)[2], concluded that juvenile pink and chum salmon showed some avoidance of the immediate area of pile-driving activity, but did not change their shoreline

[1] Rieman, B.E., D.C. Lee, and R.F. Thurow 1997. Distribution, status, and likely future trends of bull trout within the Columbia River and Klamath River basins. North Am. J. of Fish. Mgmt. 17:1111-1125.

[2] Feist, B.E., J.J. Anderson, and R. Miyamoto 1996. Potential impacts of pile driving on juvenile pink (*Oncorhynchus gorbuscha*) and chum (*O. keta*) salmon behavior and distribution. Report No. FRI-UW-9603, Fisheries Research Institute, School of Fisheries, Univ. of Washington, Seattle, WA.

orientation or cease foraging. In addition, the majority of the sounds produced by drop hammer pile driving in this study exceeded the maximum frequency audible to Atlantic salmon (380 Hz) and were thus inaudible. Based on the results of the Feist study, pile driving is not likely to result in the 'take' of bull trout. Additionally, the threat of pile driving masking the sound of an approaching predator is minimal for bull trout given the relatively large size of bull trout in the project areas.

5) Boating impacts. According to the Chelan County Public Utility District, surface water temperatures exceed 15°C in the Columbia River from July through September. Bull trout respond to elevated surface water temperatures by moving below the thermocline. In addition, this period of elevated surface water temperatures coincides with the upstream migration of spawning and non-spawning adults and subadults to headwater tributaries. Hence, few direct impacts to adult or subadult bull trout would be expected from boating during the typical boating season (July through September). Indirect effects of boating on habitat quality would not be discountable and include: sediment and contaminant resuspension and resultant turbidity and toxicity, laceration of aquatic vegetation with loss of faunal habitat and substrate stability, toxic effects of chemical emission of boat engines, increased turbulence, and shearing of plankton.

The Corps has determined that these proposed projects **may affect, but are not likely to adversely affect** the Columbia River bull trout. This determination is based on the lack of effects on spawning and fry/juvenile rearing; the low probability of predation by bass and pike minnow; the short construction period (typically one week per project with approximately 11 projects per year), highly localized geographic scope of construction, and the presence of only large and mobile bull trout in the project areas that would be able to avoid any turbidity plumes associated with in-water construction; and the unlikely presence of bull trout in the action areas during the typical boating season.